MODULE 2 & 3

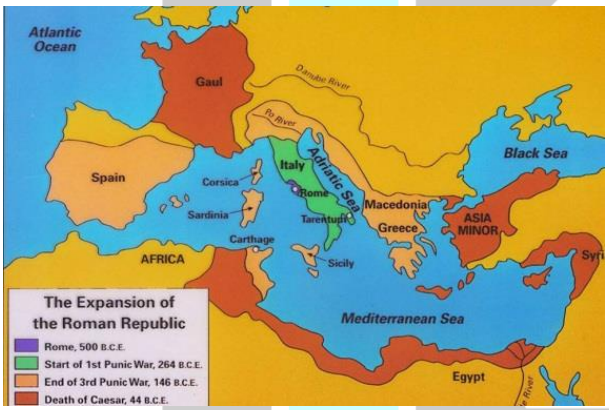
# CLASSICAL ROMAN ARCHITECTURE

- Historical Background
  - Location and period
- Architecture of Rome
  - Arches & Vaults, Concrete
  - Aqueducts, Bridges
  - Civic Architecture: Theaters and Amphitheatres, Circuses, Bath, Temples, Basilicas
  - Residential Architecture

## HISTORICAL BACKGROUND

### LOCATION

- Roman architecture refers to the architecture of Rome and of the Roman Empire
- The Roman Empire was one of the largest early empires in history, stretching from England in Northern Europe to the Ancient Near East and Africa
- The pink area of the Map shows the greatest extent of the Roman Empire
- Rome, located on the Italian peninsula was the capital of the empire
- From the capital, an infrastructure of roads and communication systems was established to connect the whole empire
- Rome is today the capital of Italy




### PERIOD

- The city of Rome was founded in 753 BC.
- Roman civilization with Rome as capital lasted for more than a thousand years.
- The history of the civilization can be divided into three periods;
  *753-510 BC Etruscan Period*
  *510 –44 BC Republican Period*
  *44 BC –476 A.D Imperial Period*
- Rome was ruled by Etruscan Kings aided by a popular assembly
- Towards the end of the 6th century B.C., Etruscan power began to decline
- In 509 B.C. Rome revolted against their king and established an independent city state
- Further decline in the power of the Etruscans was accompanied by the rising influence and increasing significance of Rome
- After the expulsion of its Etruscan Kings, Rome gradually assumed leadership of a number of settlements for mutual defense
- This gradually led to the expanding influence and dominance of Rome
- By 273 B. C. Rome became the established dominant force in the region
- It conquered its rivals, defeating Cathagein 146 B.C., Macedonia in 168 B. C., Greece in 146 B.C., and Syria in 64 B. C.
- With time Rome also developed a system of Representative government
- Roman Architecture–The Environment around Rome was not as rich as the Greek mainland in construction material especially marble – Romans construction material consists of Stone, principally local travertine and timber
- Roman also invented a system of firing brick and used brick widely in construction– Romans were also the first people to discover concrete;
- Roman concrete is different from our present day concrete–Romans made significant improvements to the arch to address its shortcoming

## ROMAN ARCHITECTURE

- The Romans adopted the external language of classical Greek architecture–In Roman architecture, the orders survived simply as ornaments applied to great concrete buildings.
- But the Romans also made unique additions to the orders that are very important.
- New orders evolved and were added to the Greek orders to form the classical language of architecture
- Romans also made additions in the entablature of temples, in the scale of buildings and the proportion of the entire design.
- While the Greeks are said to be the inventors of form, Roman architecture concentrated on the creation of space

- The Greek and Roman architecture are referred to as classical architecture

- The first book on architecture was produced by Marcus Vitruvius Pollioin 100 A.D.

- The ten books of architecture written sets down rules and procedures for creating architecture of value

- The genius of Roman architecture was expressed not in the design of a particular building, but in the production of a vast number of various building types

- Roman buildings include bathhouses for bathing, circuses for racing, amphitheaters for gladiatorial contest, temples for religion, domus for family life and the forum as the center of public life and national commerce

- Romans created what can be referred to as a structural revolution

- This revolution centers on their understanding and use of the arch and vault

- They also discovered the groin vault

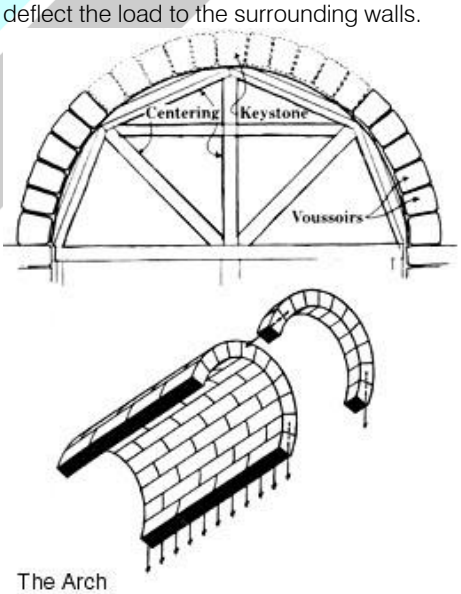
- Because of this *structural revolution*, they were able to span large openings in buildings and other structures with economy and strength

- They were also able to design and construct buildings with large interior spaces

- The revolution also allowed the Romans to construct large engineering structures such as bridges to connect all parts of their empire, and aqueduct to supply water to their cities

## STRUCTURAL INNOVATION-ARCHES

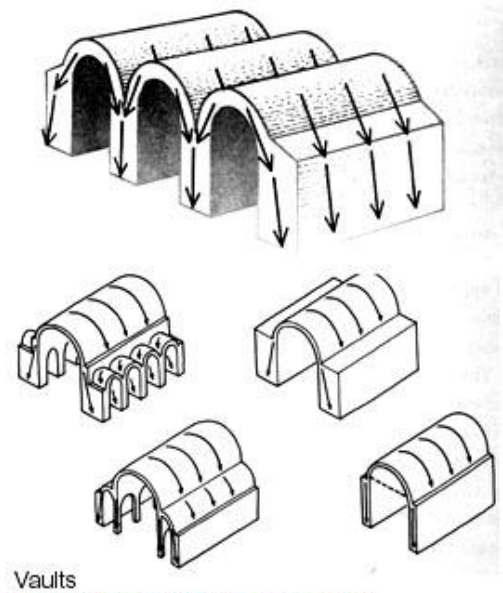
- With an arch, there are no tensile stresses as all the forces are in compression and building stone has enormous compressive strength
- Up to a certain point also, the more an arch is loaded the stronger it becomes
- Arches were used over doors and openings and sometimes, they are built over a lintel to deflect the load to the surrounding walls.




The Arch
Source: Trachtenberg & Hyman (1986)

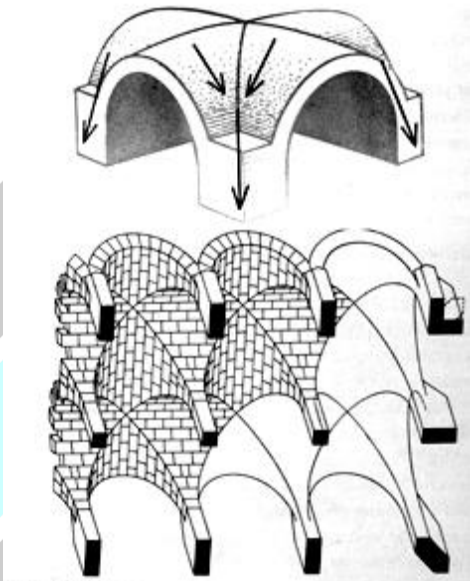
## VAULTS

- Vaults are used to cover an area as a roof
- The simplest of the vaults is the Barrel vault, which is just made up of an arch extended over a certain distance
- It can be adapted to suit different types of plans by making simple modifications to it
- The disadvantage of the vault is that it exerts a continuous load and therefore needs some form of continuous support
- It is also difficult to light the space under a vault except from the ends
- The Romans invented unique ways of overcoming these difficulties



Vaults
Source: Trachtenberg & Hyman (1986)

- The cross vault was created from the barrel vault to overcome some of the problems of the ordinary vault
- This is formed by intersecting two barrel-vaults at right angle and is called a "groin vault"
- The weight of the groin vault is concentrated at the corners eliminating the need for continuous support
- The opening of the space in 4 directions means that ample light can be provided to the area below it



Groin Vault
Source: Trachtenberg & Hyman (1986)

## CONCRETE

- Concrete has the advantage that it can be cast in any shape and in far larger sizes than the megalithic blocks of stone used in buildings
- With concrete, it was possible to construct monolithic vaults and arches
- Concrete buildings were normally faced with other materials to hide the ugly look of the concrete.
- Fired brick used as formwork was the most popular covering material

- *The structural revolution introduced by the Romans enabled them to introduce a variety of new civil structures and building programs never seen before their time*

- *The ability of the Romans to create large structures enabled them to build significant civil structures including aqueducts, bridges and sewers*
- Aqueducts were used to supply water to Roman cities
- The Pont Du Gard is probably the most magnificent of the Roman aqueducts
- It was constructed around 50 A.D. to supply water to the city of Nimes

- The Aqueduct in some places is almost 50 meters above the deep valley of the River Gard
- It was constructed of 3 tiers of arches

Pont Du Gard
Source: Allan T. Kohl MCAD

Pont Du Gard
Source: Allah T. Kohl MCAD

- The Aqua Claudia is also another example of Roman aqueduct
- The Aqua Claudia was one of the eleven aqueducts that supplied Rome with water
- The aqueduct supplies water to Rome over a distance of 66 kilometers

Aqua Claudia, Rome
Source: Sir Barnister Fletcher (1996)

Trojan's Bridge, Alexandria
Source: Sir Barnister Fletcher (1996)

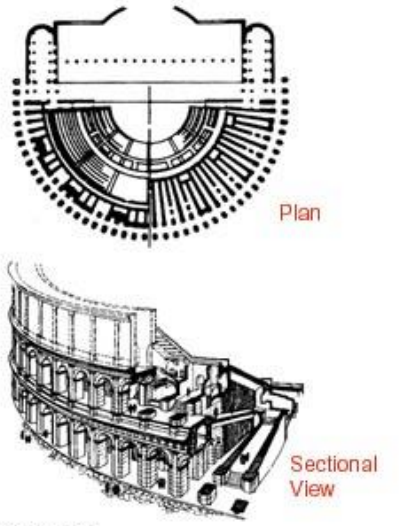
- The Trojan's Bridge Alexandria is an example of ancient Roman structural achievement
- It is also amongst the most impressive of the surviving Roman bridges
- The bridge consist of tall piers and wide spanning arches
- The central arches are slightly above 27 meters in length
- The roadway is carried 48 meters above the River
- A commemorative arch stands at the center of the Bridge; the commemorative arch bears the name of the architect of the bridge

- The focus of Roman building design was on functional spaces
- The Roman people demanded buildings of various functions from the Roman architect
- The architects were able to respond, creating buildings that answer to their functional requirement by providing appropriate interior spaces

- The buildings types include theaters, amphitheaters, basilicas, circuses, basilicas, temples and baths
- All of these buildings were erected within the dense fabric of the city

## THEATERS

- The Romans adopted the Greek theater transforming it into something Roman
- There was an expansion of the stage and the whole theater was contained within a high-unbroken wall
- The Greek Theater was blended into the landscape
- In contrast, the Roman Theater was an urban form located in a flat city
- The structure of the theater consists of massive structural arcades on piers




Theater Marcellus
Source: Sir Barnister Fletcher (1996)

- A purely cosmetic layer of trabeation was added to the front
- The trabeation was of the Greek orders and gave scale to the building
- It also creates a rhythm of solids and voids on the elevation
- The three orders of Greek architecture were used on the theater elevation
- Theaters were built in every Roman City
- The Theater was used for acting and drama
- The Theater Marcellus constructed between 23 to 13 B.C. was the first theater constructed in the capital Rome
- It is a good example of a Roman theater
- Access to its banked seat is from the rear, providing access circumferentially
- A stage runs from end to end in front
- The stage is enclosed by a tall wall

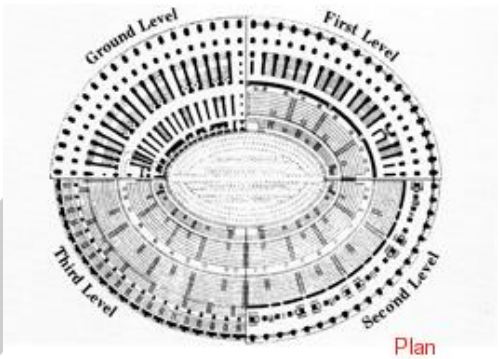
## AMPHITHEATRE

- The amphitheater is a roman structure with no Greek equivalent
- Amphitheatre is a public building used for spectator sports, games and displays
- Apart from function, the important outward distinction between an amphitheatre and a theatre is that amphitheatre is round or oval in shape
- An amphitheater was first built in Pompeii in 80 BC, but the best example of the Roman amphitheater is the colosseum

The Colosseum, Rome
Source: Allah T. Kohl MCAD

- The Colosseum is an amphitheater in Rome
- Its construction began under the Emperor Vespasian in 72 A.D. and was completed in A. D. 80
- It was used for spectator sports including gladiatorial combat
- It is said that 9,000 wild animals were killed in the one hundred inaugural days celebrating its opening
- The Colosseum hosted large-scale spectacular games that included; fights between animals, the killing of prisoners by animals and other executions, naval battles via flooding the arena, and combats between gladiators

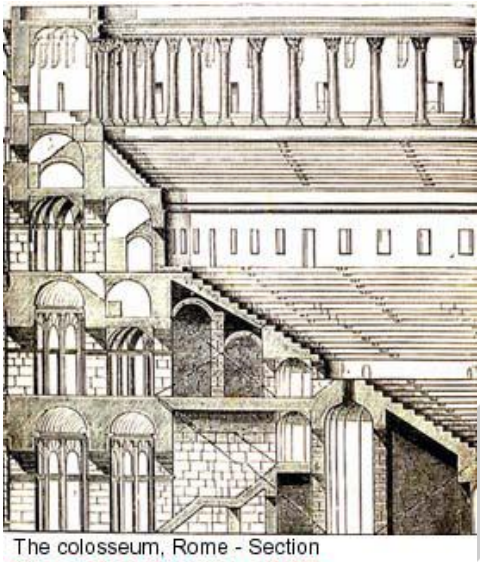
The Colosseum, Rome
Source: Trachtenberg & Hyman (1986)




The Colosseum, Rome
Source: Trachtenberg & Hyman (1986)

- It has been estimated that about 500,000 people died in the Colosseum games
- The colosseumis elliptical in shape
- It measured 48 metres high, 188 metres long, and 156 metres wide
- The wooden arena floor was 86 metres by 54 metres, and covered by sand
- The colosseum had a seating capacity for 50,000 spectators
- The Colosseum was ingeniously designed; most spectacle venues have been influenced by the Colosseum's structure into modern times
- The seating formed a uniform elliptical ring capable of supporting the 50,000 spectator capacity of the facility
- The substructure of the amphitheater is very much like that of the theater
- Vaulting was used both radially and concentrically to support the structure

- The Colosseum also had a passageway that opens into a tier of seats from below or behind
- Each entrance and exit was numbered, as was each staircase
- The passages quickly dispersed people into their seats and upon conclusion of the event disgorged them with abruptness into the surrounding streets
- Seating was divided into different sections
- Above the podium was the maenianum primum, for the other Roman aristocrats who were not in the senate
- The second level, the maenianum secundum, was divided into three sections
- The lower part, was for wealthy citizens, while the upper part was for poor citizens
- A third, wooden section was a wooden structure at the very top of the building, added by Domitian



The colosseum, Rome - Section
Source: Albert Rosengarten (1889)

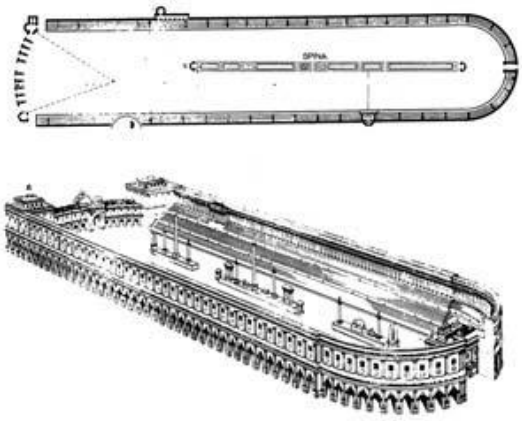
- The most ingenious part of the Colosseum was its cooling system
- It was roofed using a canvas covered net-like structure made of ropes, with a hole in the center
- The Arena where the action takes place is located at the center of the ellipse
- Underneath the arena was the "underground", a network of tunnels and cages where gladiators and animals were held before contests began
- The arena floor no longer exists, and the hypogeum walls and corridors are clearly visible in the ruins of the building
- The orders were used in the elevation in the same manner as on the theater
- The Colosseum was in continuous use until 217, when it was damaged by fire from lightning
- It was restored in 238 and gladiatorial games continued until Christianity gradually put an end to such sports

CIRCUSES

- The Romans developed circuses or stadium for horse and chariot racing
- Every city usually had one located close to the forum
- The circuses had stalls at one end where the chariots emerge at the beginning of the race and a track which they race around
- The structure of the circus is very similar to that of theaters and amphitheaters
- Circus Maxima is an example of a Roman Circus

CIRCUSE MAXENTIUS

- It is located in Rome and is one of the oldest
- It went through a series of transformation over the period of its existence
- The image shown is its final form around 400 A.D.
- It is 600 meters in length by 200 meters in width
- The circus had 3 tiers of seat, and there are stalls for 12 race houses or chariots
- Each race was of 7 laps covering a distance of about 3.6 kilometers



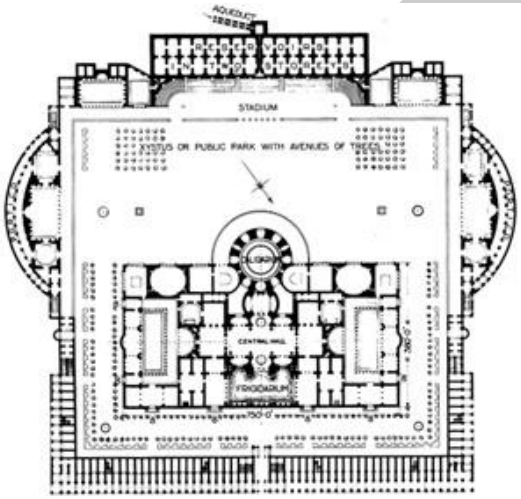
The Circus of Maxentius, Rome
Source: Sir Barnister Fletcher (1996)

BATHS

- The Romans had a unique need for exercise, bathing and relaxation and they devised a unique architectural element, the Bath to address that need
- The roman bath was more that just merely swimming or washing
- This practice became so popular that at some point, they took it more serious than their gods
- It was a daily practice of almost all Romans to go to a Bath once a day to relieve stress
- The bathing procedure involves a pattern of exposing the body to various levels of heater air and water
- The core program of the bath consist of a disrobing room, the apodyterium, a series of at least two heated rooms, the tepidarium, and a hot room or cauldarium
- Besides the heated rooms, the bath may also have a swimming pool, or natatiofor cold

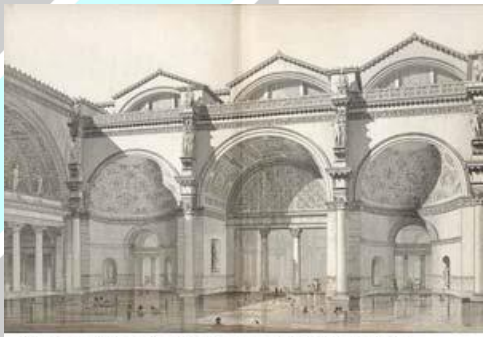
plunges on hot summer days or a cool unheated room called the frigidarium
- Bathing also dries the skin so baths also provided rooms with special attendants to oil and towel bathers dry
- Wealthy people and Emperors had private both, but the greatest baths were the public ones built for the populace

BATH OF CARACALLA
- The bath of Caracalla is a good example of a Roman bath and among the best preserved
- The bath is set free standing within a square precinct enclosed by walls
- The precinct has a water reservoir to the south, supplied by an aqueduct to service its water need




Bath of Caracalla
Source: Sir Barnister Fletcher (1986)

- The reservoir is located beneath a stadium used for athletic contest
- The east and west walls have a curved exedra that defines space for cultural activities such as library, music performance, philosophical lectures, etc
- The front wall has a series of shops with the entrance at the center
- The main bath building is rectangular, 225 meters by 115 meters and is situated within the walled precinct
- It has a perfect bilateral symmetry along its north-south axis
- The bath has a large dressing hall, apodyterium at the center of the building
- A swimming pool or Notatois located to the north of it, while a tepidarium and a domed circular cauldarium is located to the south of it, where it is more sunny
- A series of supplementary rooms, including Gymnasium and bathroom suits are arranged symmetrically on two sides of the building
- The structure of the bath of carracalla is made up of vaults, arches, groin vaults and domes
- The interior also shows how the Romans have been able to adapt the Greek orders and treatment to arch and vault construction



Bath of Caracalla- View of the Notatio (pool)
Source: http://egyptphoto.ncf.ca

TEMPLES
- Temples were a significant part of roman architecture
- Scores of temple were built during every period
- Most of the roman temples were combination of Etruscan and Greek prototypes
- The typical temple had an axial plan, an entrance porch with widely spaced columns in front
- The temple also had a cella or sanctuary
- The whole temple is raised on a high podium with frontal steps providing access
- A good example of the early form of the temple is seen in Maison Carree in Nimes
- The best preserved of the temples and the one showing the highest achievement in temple architecture is the Pantheon

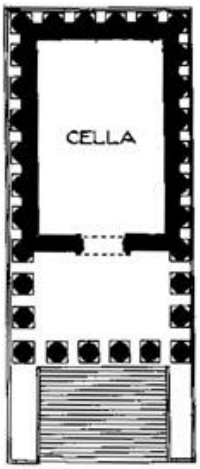
MAISON CAREE, NIMES

Maison Carree, Nimes
Source: M. Clausen, University Washington

Maison Carree, Nimes- back view
Source: J. Howe, Boston College

- Nimes France
- It was built by the Emperor Agrippa
- The temple shows Greek influence on early roman temples

- The temple is 26.5 meters long, 15.5 meters wide and raised on a podium 3.3 meters high
- It is a temple with 6 Corinthian columns in front, 10 diameters high
- Its podium is three and half times the height of the entablature with 15 access steps in front
- It has an entrance porch that is 3 columns deep
- The temple has a cella that is one and half times long as to its width




Maison Carree, Nimes - Plan
Source: unknown

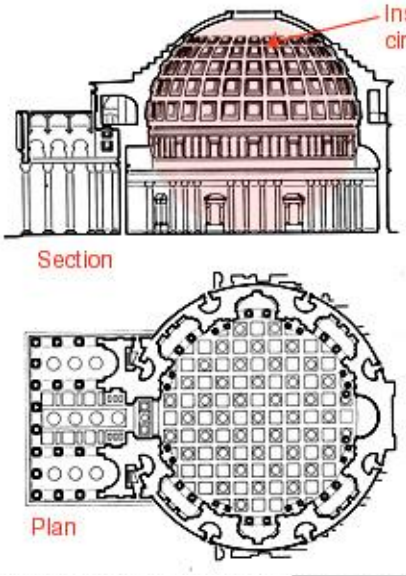
- The walls of the cella have attached half Corinthian columns on its visible three sides

PANTHEON

- The Pantheon is the best surviving of all classical buildings

The Pantheon Rome
Source: J. Cohen, Bryn Mawr College

- It is also represents the highest achievement of Roman architecture
- It was built between AD 118 and 128 by the Emperor Handrian on the site of an earlier temple by Agrippa
- It was built as a temple dedicated to all the Roman Gods, hence the name Pantheon.
- The Pantheon essentially consist of two parts; the an entrance portico and a circular part or rotunda
- The portico is 8 columns wide and 3 columns deep and leads to the entrance of the temple
- The columns are of unfluted Corinthian order
- The wall of the rotunda is 3 storeys high, on the outside; they are made up of brick faced concrete and support the dome roof of the temple



The Pantheon Rome - Interior
Source: Trachtenberg & Hyman (1986)

- The interior has eight large niches with one serving as the entrance and the remaining seven used dedicated to the seven major Roman Gods
- The Dome roof forms a perfect sphere with a diameter of 142 feet in the interior
- At the head of the dome is a 30ft wide occulus, that opens up the great dome to the outside and illuminates the space with light
- The interior was built of Egyptian granites, African colored marbles and pure white marbles from the Aegean
- The Pantheon combines scale, boldness and mastery of every architectural art.

The Pantheon, Rome - Occulus
Source: Meredith Clausen U. of Wash.

## RESIDENTIAL BUILDINGS

- Roman cities had a range of various types of private dwellings
- The private dwellings reflected the rank and wealth of the inhabitants
- At the lowest level are the multi-story tenements where a large proportion of the population stayed
- They consisted of shops on the ground floor and apartments on the upper floors

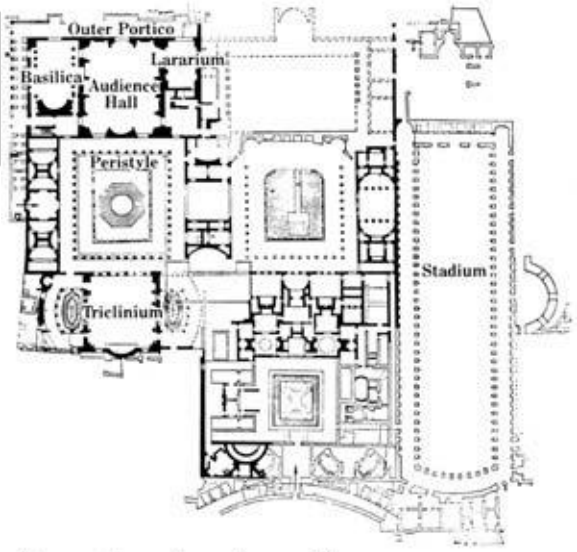
- The apartments were built around a courtyard for light and air

Example of a Roman apartment building
Source: Great Architecture of the world (1975)

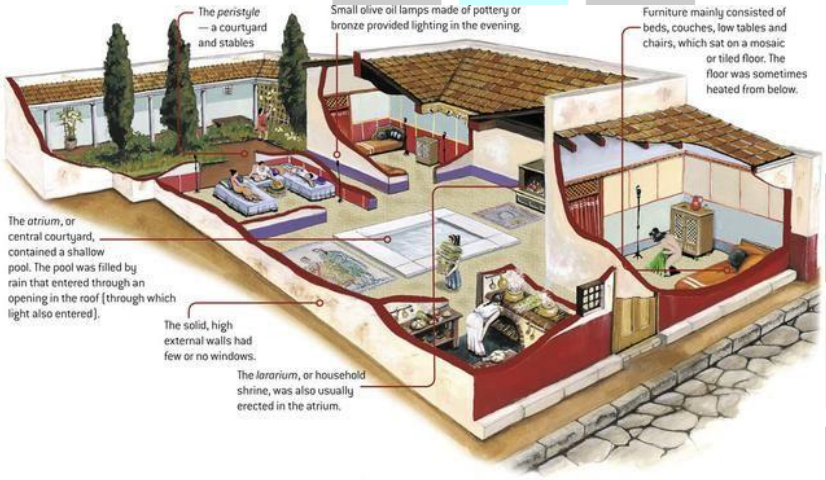
- The common roman house was the domus
- These were reserved for the more well off members of the Roman society
- The domus was essentially a courtyard house, with a peristyle colonnaded courtyard
- It had few or no windows to the outside

- At the high end are elaborate palaces and villas for the very rich
- The Domus Augustana, also called flavian's palace, is an example of the high-end residential palaces
- Domus Augustana was both a house for the emperor as well as his palace for official functions
- It was laid out around two peristyle atriums
- The atrium to the left is for state function
- Entry is from an inconspicuous door from the top
- The residential part of the palace is arranged around the courtyard located to the right
- To the right of the residential part is a sunken garden in the form of a stadium
- This is the private garden of the emperor, where he can interact with nature

Domus Augustana, Roma - view in city fabric
Source: Trachtenberg & Hyman (1986)

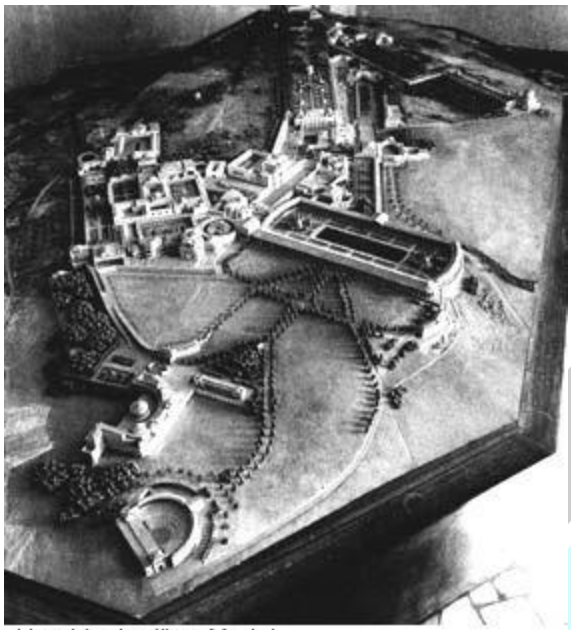



Domus Augustana, Rome - Plan
Source: Unknown


The peristyle — a courtyard and stables
Small olive oil lamps made of pottery or bronze provided lighting in the evening.
Furniture mainly consisted of beds, couches, low tables and chairs, which sat on a mosaic or tiled floor. The floor was sometimes heated from below.
The atrium, or central courtyard, contained a shallow pool. The pool was filled by rain that entered through an opening in the roof (through which light also entered).
The solid, high external walls had few or no windows.
The lararium, or household shrine, was also usually erected in the atrium.

HANDRIANS VILLA

- Romans also built country villas or houses, where they could go to be close to nature
- A very good example of the country villas, is the Handrian's villa built for the Emperor Handrian
- The Handrian villa displays an example of the level of wealth displayed in buildings
- This was a large country estate spread on a vast terrain



Handrian's villa - Model
Source: Trachtenberg & Hyman (1986)

- The structure was made of a loose arrangement of peristyle halls, fountains, dining halls, dormitories, baths, libraries and other facilities
- The most characteristics feature of the villa is the play of curves and curved form
- This is most evident in the Canopus
- This is an elongated pool surrounded by a colonnade
- The colonnade is topped by alternating straight entablature and segmental arch sections framing statuary

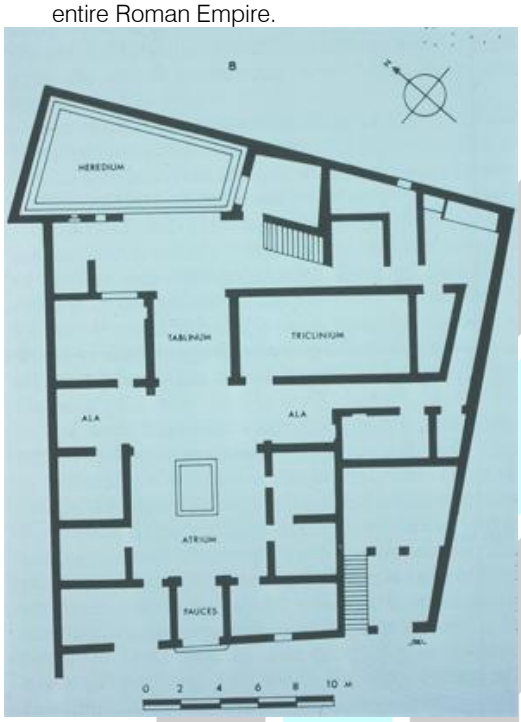
Handrian's villa - View of the Canopus
Source: J. Cohen, Bryn Mawr College

- From the writing of Vitruvius two main points stand out:
- That the type of house a man lives represents and needs be appropriate to his social status.

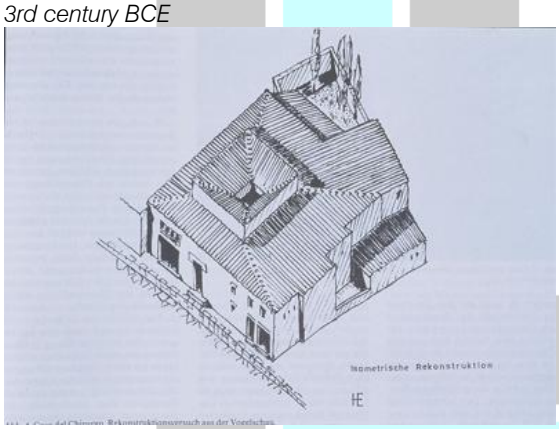
Furthermore, that a member of the elite who played a role in public life was expected to have *clientes*.

- That there should be a distinction between intimate spaces occupied solely by the residents and those open to guests and visitors.
- Thus, Roman Atrium Houses were developed to accommodate these criteria.
- A main entryway leading to an interior central atrium court.
- An Atrium court differed from a *peristyle* in that most of the court was covered by extending the surrounding downward sloping roofs. The central area left uncovered and open to the sky corresponds to the size of the central ***impluvium***.
- At the far end of the atrium would be the main reception room of the house the ***tablinum***. This room could be left open to both the front and rear, but would then have had wooden partitions to close off the openings when desired.
- The ***tablinum*** was flanked by two other rooms the ***alae***, and then the assorted ***cubicula***.
- The ***tablinum*** also acted as the area for the display of family archives. Here, the *dominus* would receive guests.
- The ***triclinium*** (dining room) was located to one side of the atrium, often in the corner of the house.
- The ***lararium*** (household shrine) was often located in the atrium, or an adjacent room.
- It is sometimes difficult to locate specific kitchens in Roman households of all periods, as often the family had portable braziers that could be easily set up in any part of the house.
- derived from the Greek idea of central courtyards houses, dating back to the 6th century BCE at Megara Hyblaea, in combination with the Etruscan temple porches formed by large over-hanging eaves.
- The early Atrium houses, in the '*Atrium-Tablinum*' arrangement show close relation to the *oecus-prostas* arrangement, exemplified by the '*prostas houses'* in Priene.
- There were still no columns serving as structural support in early '*Atrium-Tablinum*' houses.
- The addition of *alae* with the *lararium*
- -Rooms added specifically for display
- The three main rooms were directly aligned across the back, as in Greek *peristyle* houses.

- -But the *tablinum* at the center was open to the atrium for its full width,
- flanked by the *triclinium* to one side and domestic space to the other.
- *Increased amount of domestic/public space, both visible and accessible.
- The Atrium style house became a marker or Roman culture and spread throughout the entire Roman Empire.



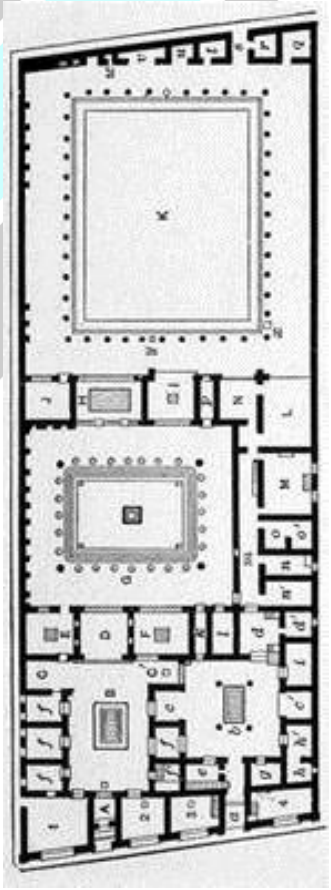

*Early example of Roman 'Atrium-Tablinum' Design* ***The House of the Surgeon****, Pompeii 3rd century BCE*




- Born of Roman desire to add a domestic part to their homes, but without sacrificing the *atrium-tablinum* layout that was so fitting to the daily lives of the Roman elite.

- The solution was to attach to the rear of the atrium complex a *peristyle* court, an popular idea that became the new Roman standard from the 2nd century BCE onward.
- Roman *peristyles* were consciously arranged to be symmetrical and revolve around a central feature.
- Columns entered the Roman domestic architecture vernacular.
- -As seen in the *tetrastyle* atria.

General trend towards more decorative architecture within private houses were seen



*House of the Faun, Pompeii 2nd century BCE*

Roman Atrium housing developed through the process of selecting Greek design ideas that were fitting for their own cultural, social, and practical needs at a specific time.

Both Greek and Roman house designs are not resolutely defined and unyielding. Traditional standards did exist, but there was much variation.

In both the Greek and Roman examples, the house plans discussed belonged to middle and upper class citizens.

PRINCIPLES

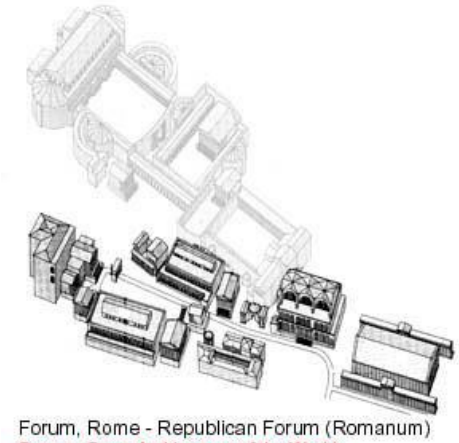
- The planning of most cities fall in between the two extremes of organic growth and rigid grid planning
- All cities had a forum, theater, bath, market etc.
- Many of the cities contained buildings that were copies or local versions of key monuments in Rome
- Focus in city design is on integrating civic buildings with public spaces and residential neighborhoods
- Each public building had interior spaces that responded to functional requirement with the spaces also linked and connected with the public spaces of the city
- The Forum was the center of the Roman city

FORUM

- The forum was the descendant of the Greek agora for the Romans
- It began as a market place
- It rapidly became the commercial, political and ceremonial center of the civilization
- In the process it developed into an elaborate architectural space that became a part of all roman cities
- Unlike the Greek agora which is informal in plan, and whose buildings are subordinate to the space, in the roman forum, the organization is more formal
- The buildings surrounding it are normally large and dominate the space
- Buildings commonly found in the forum include temples, basilicas, and bath
- Each individual major building in the forum was given a central inside space
- Governmental function were usually arranged on the West End; religious ceremonies were celebrated at the east end
- The inside space of buildings was connected to one or more exterior space of the city
- Columns, statues and triumphal arches were erected as a memorial to the conquering rulers and to the glories of the empire
- No two roman forums are really alike, as there are always differences between the forums in different cities
- In Rome with its two forums, we find a good example of the Roman forums

REPUBLICLAN FORUM

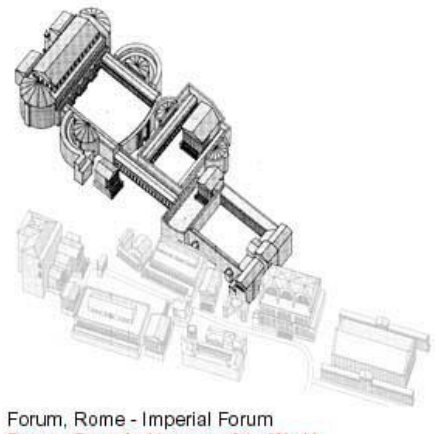
- The Republican Forum is also called the Forum Romanum
- It was the oldest and most important forum in the city
- Soon it became an important market place
- By the 5th Century B.C. the various functions associated with the forum began to assume their architectural shape
- Additions, modification and growth by successive republicans and emperors led to its development
- By 400 A.D. the forum had accumulated not less than 10 temples, 4 basilicas, 4 triumphal arches and many other monuments and shrines
- All of these were arranged with no preordained order
- The buildings therefore loosely define the space of the forum



Forum, Rome - Republican Forum (Romanum)
Source: Great Architecture of the World

IMPERIAL FORUM

- During the reign of Julius Ceasar, he attempted to reorganize the Republican forum but realized that it had become too congested for rational order
- He therefore decided to build a new forum adjacent to but outside the republican forum
- This idea was picked by successive emperors, who added to it to create the imperial forum



Forum, Rome - Imperial Forum
Source: Great Architecture of the World

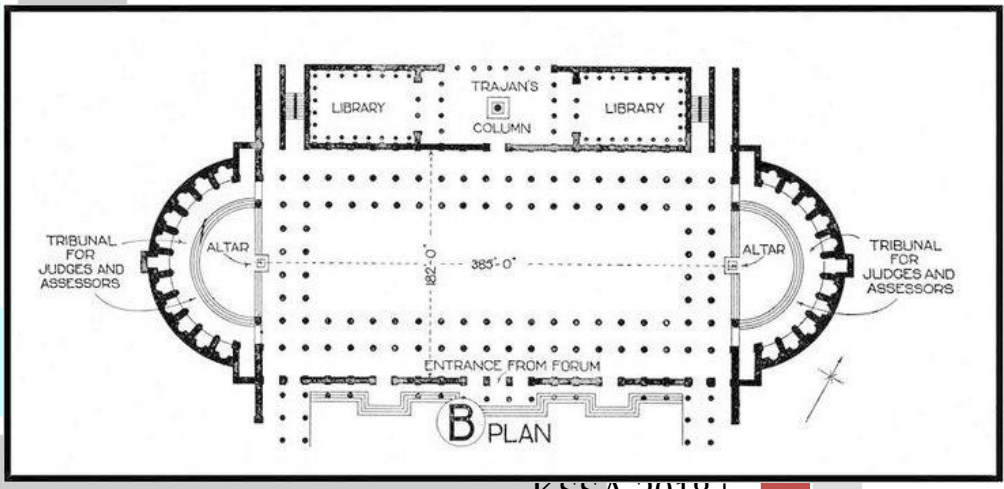
- The imperial forum is not one forum, but five forums with each supporting the other
- There was variety in their form, but they displayed rational order in their organization
- Each of the forum consisted of colonnaded atrium with a temple at its head
- Of the five temples that of Trojan was most majestic, with the basilica Ulpia sitting across it and two libraries on either side of the central court

BASILICA

- Basilicas are among the most important categories of roman architecture
- There were no basilicas before the Roman era
- The basilica are rectangular and usually contained interior colonnades that divided the space into aisles at one or both sides, with an apse at one end
- The central aisle tended to be wide and was higher than the flanking aisles, so that light could penetrate through the clerestory windows
- The function of the basilica is close to that of the Greek stoa
- It is also the place where magistrates to hold court to dispose of legal matters
- The oldest known basilica, the Basilica Porcia, was built in Rome in 184 BC
- The most splendid Roman basilica is the one constructed for traditional purposes during the reign of the pagan emperor Maxentius and finished by Constantine after 313
- In the early Imperial period, a basilica for large audiences also became a feature of the palaces

BASILICA ULPIA

- The Basilica Ulpia was built by Emperor Trajan in the period A.D 98-117 for his imperial forum
- Basilica Ulpia stretches for 120 meters in length over the width of the Trajan forum
- The Basilica consists of a central hall, 25 meters wide surrounded on all sides by double colonnades
- The walls of the Basilica were finished with multi-colored marble; also referred to as polychromatic marble
- The whole structure was covered with a truss roof
- Basilica Ulpia represent the generic form of the Roman Basilica,
- It is this form that will later be adopted by the Christians for their church
- The Basilica had two semi-circular apses at it's two ends



Basilica Ulpia, Rome - Interior view reconstructio
Source: Trachtenberg & Hyman (1986)

TRIUMPHAL ARCHES

- Other Than buildings, ancient Romans also contributed to the development of several architectural elements
- The most prominent of the elements is the triumphal arch
- A triumphal arch is a structure in the shape of a monumental gate, usually built to celebrate a victory in war
- They are almost always built in the Form, framing the paths that people follow
- Romans started it as a way to celebrate their victories in battles
- Some triumphal arches are made of stone and intended to be permanent.
- A number of arches from the city's imperial era can still be seen in modern Rome.
- Temporary triumphal arches were also constructed for use for celebratory parades or ceremony and later dismantled
- A Roman Triumph was a civil ceremony and religious rite held to publicly honourthe military commander of a notably successful foreign war
- Only men of senatorial or consular rank could perform a triumph celebration and be a triumphatoras the victorious generals are known
- The ceremony consisted of a spectacular parade, opened by the chiefs of conquered peoples who are afterward executed
- The triumphatorrode on a biga, a chariot pulled by two white horses
- The parade followed a precise route in the streets of Rome
- It traveled along the Forum until it reached the Temple of Jupiter Optimus Maximus, where the laurels of victory were offered to the god.
- Monuments may then be erected to celebrate the triumph
- Two examples of such monuments in the republican forum are the Arch of Titus and the Arch of Constantine

ARCH OF TITUS

- The arch was built in A.D. 81 and dedicated to the emperor Titus
- It was built to commemorate the military victory over Jerusalem in A.D. 70
- The arch has a height of 15.4 meters, a width of 13.5 meters and was constructed of stone
- The marvel of its stone construction is evident in the keystone, which ensures the stability of the arch
- It has a single opening flanked on each side by attached columns of the Composite order
- The composite order has a capital that joins the acanthus leaves of the Corinthian order with the volutes of the ionic order
- The face of the arch is decorated with sculptural relief depicting the destruction of the temple in Jerusalem

The Arch of Titus
Source: J. Cohen, Bryn Mawr College

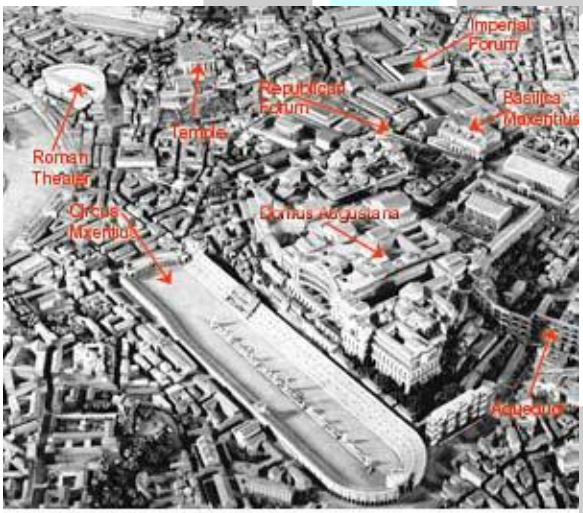
ARCH OF CONSTANTINE

- The arch of Constantine was built much later that than of Titus
- It was built to commemorate the victory of Emperor Constantine over Maxentiusin A.D. 312

- Its form shows an attempt to create an arch more majestic than that of Titus

The Arch of Constantine
Source: C. A. Westfall, Digital Media Center UVa

- It has three arched openings, a larger one in the center flanked by two smaller ones
- There are four free standing columns in front framing the arched openings
- It is also abundantly decorated, depicting the victory in relief sculpture




A reconstruction Model of Rome
Source: Trachtenberg & Hyman (1986)